

# Building Credentialing Pathways Using Credit for Prior Learning

A Case Study about  
Delta College



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Formed in 2014, Workcred is an affiliate of the American National Standards Institute (ANSI). Its mission is to strengthen workforce quality by improving the credentialing system, ensuring its ongoing relevance, and preparing employers, workers, educators, and governments to use it effectively. Workcred's vision is a labor market that relies on the relevance, quality, and value of workforce credentials for opportunities, growth, and development.

Delta College  
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Delta College opened in 1961 and now enrolls nearly 9,000 students annually. The mid-Michigan college lies midway between the cities of Saginaw, Bay City, and Midland and offers students nearly 150 transfer and career associate degree and certificate programs. Delta College significantly impacts the local economy by providing a trained and ready workforce. Today, the college continues to lead the way in education for vital fields like healthcare, technical trades, and computer science.

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ECMC Foundation is a national foundation whose North Star goal is to eliminate gaps in postsecondary completion by 2040. The Foundation uses a spectrum of funding structures, including strategic grantmaking and program-related investments through Education Innovation Ventures, to invest in both nonprofit and for-profit ventures. In pursuit of system change, the Foundation's grantmaking and investing are concentrated on the three following strategic priorities: removing barriers to postsecondary completion; building the capacity of organizations, institutions and systems; and transforming the postsecondary ecosystem.

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HLC is an independent agency, founded in 1895, that accredits degree-granting colleges and universities in the United States. HLC is an institutional accreditor, accrediting the institution as a whole. HLC's mission is to advance the common good through quality assurance of higher education as the leader in equitable, transformative, and trusted accreditation in the service of students and member institutions.

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The League for Innovation in the Community College (League for Innovation) is an international nonprofit organization with a mission dedicated to cultivating innovation in the community college environment by forging strategic partnerships and empowering individuals to drive educational transformation. Founded in 1968 by B. Lamar Johnson and a dozen U.S. community and technical college presidents, the League for Innovation has proudly served community college institutions for over 50 years.

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# About Certification + Degree Pathways

The practice of embedding industry credentials like certifications into degrees (C+D pathways) is common at community colleges.<sup>1</sup> Embedding refers to a college's alignment of its degree curriculum with an industry credential, although the approach a college may take varies as it seeks to better serve its learners and leverage its existing resources. A 2017 study among 149 U.S. colleges and four-year institutions by Lumina Foundation found that the most commonly cited benefit of C+D pathways was that it enabled students to earn valuable industry and academic credentials at the same time.<sup>2</sup> The study also showed that C+D pathways helped colleges and universities align their curricula with prevailing industry standards.

Certifications are distinct from other credentials because they are awarded after an individual demonstrates acquisition of a set of skills through a standardized assessment (e.g., oral, written, or performance-based). Additionally, certifications must be renewed after a designated period of time and can be revoked for incompetence or unethical behavior. Individuals must meet qualifications such as training and experience that are required prerequisites to take the certification examination. Certifications are awarded and tracked by certification bodies—typically nonprofit organizations, professional associations, industry/trade organizations, or businesses. According to Credential Engine, more than 7,000 industry-recognized certifications are offered across numerous industry sectors including healthcare, education, finance, IT, cybersecurity, manufacturing, retail, and hospitality.<sup>3</sup>



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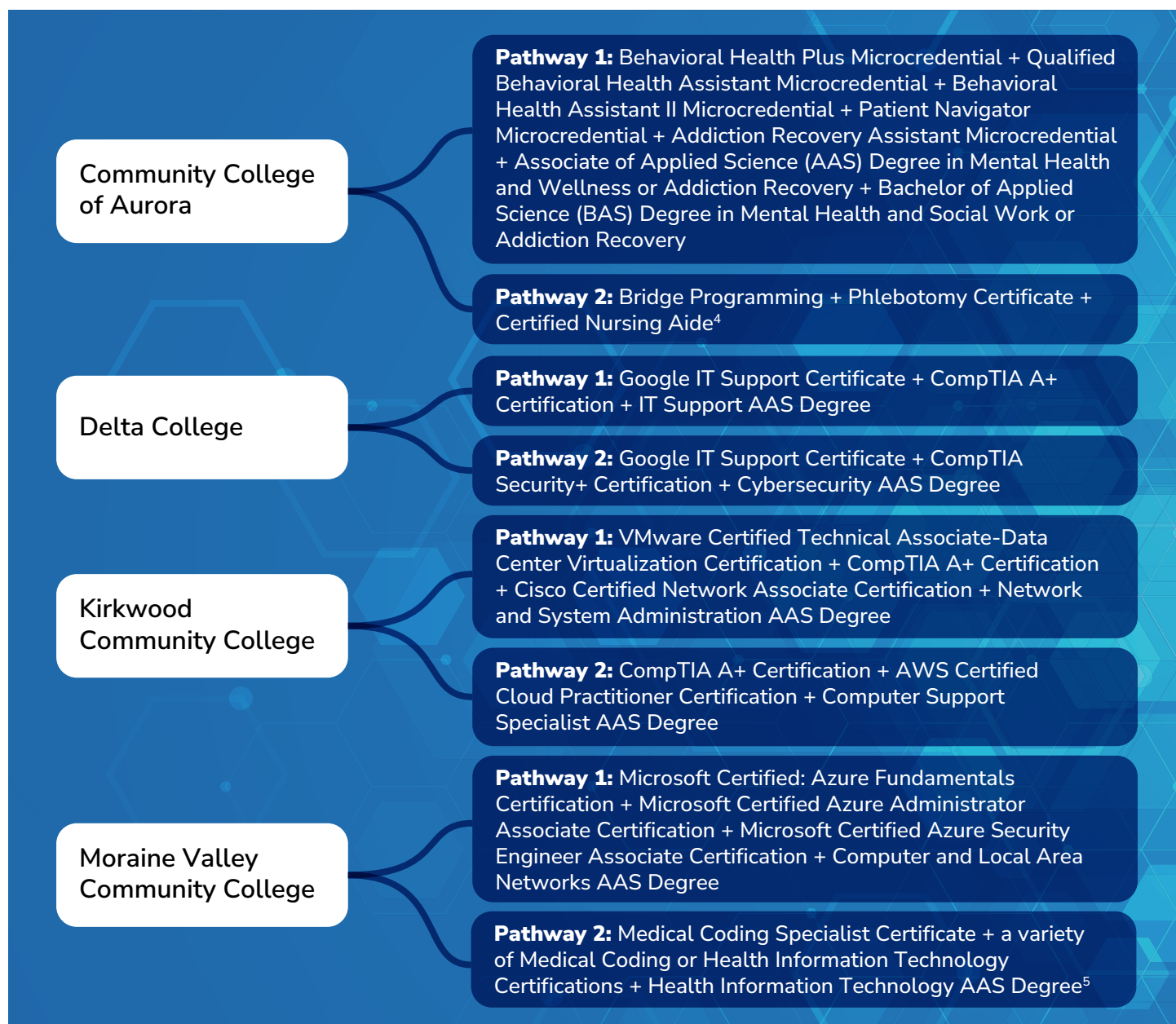
- 1 Michael Prebil and Mary Alice McCarthy, *Building Better Degrees Using Industry Certifications Lessons from the Field* (New America, Education Policy, and Center on Education & Skills, September 17, 2018), <https://www.newamerica.org/education-policy/reports/building-better-degrees-using-industry-certifications>.
- 2 Holly Zanville, Kelly Porter, and Evelyn Ganzglass, *Report on Phase I Study: Embedding Industry and Professional Certifications within Higher Education* (Lumina Foundation, January 2017), <https://www.luminafoundation.org/files/resources/report-on-phase-i-study-embedding-industry-professional-certifications-within-higher-education-january-2017.pdf>.
- 3 Counting U.S. Postsecondary and Secondary Credentials (Credential Engine, 2022), [https://credentialengine.org/wp-content/uploads/2023/01/Final-CountingCredentials\\_2022.pdf](https://credentialengine.org/wp-content/uploads/2023/01/Final-CountingCredentials_2022.pdf).

# About the Project

This project brought together a unique group of partners to explore effective ways to develop and launch new C+D pathways. Workcred, the Higher Learning Commission, and the League for Innovation in the Community College were joined in this endeavor by four community colleges—Community College of Aurora, Delta College, Kirkwood Community College, and Moraine Valley Community College.

Eight pathways, two at each institution, were developed as part of this project (see Figure 1).

**Figure 1: Credential Pathways for Each Institution**



<sup>4</sup> Author's note: This pathway is currently paused due to instructor availability.

<sup>5</sup> Author's note: Although this pathway was established prior to this project, it was included to highlight the need to obtain aggregate and/or student-level certification exam data results.



This case study is part of a series of four case studies developed to highlight all or some of the C+D pathways from each of the colleges that participated in this project. While each pathway was developed independently, there are common challenges and insights that were uncovered during this project. Further details can be found in the following related publications:

- » **[Creating Credentialing Pathways in Behavioral Health: A Case Study about Community College of Aurora](#)**
- » **[Designing Credentialing Pathways in IT: A Case Study about Kirkwood Community College](#)**
- » **[How Certification Bodies Can Support Colleges' Efforts to Integrate Certifications into Academic Programs](#)**
- » **[Medical Coding and Health Information Technology Pathways: A Case Study about Moraine Valley Community College](#)**
- » **[Playbook for Certification + Degree Pathways](#)**
- » **[Promising Practices: Certification Plus Degree Pathways](#)**

The case study that follows focuses on the lessons learned from utilizing credit for prior learning (CPL) to develop two new C+D pathways in information technology (IT) support and cybersecurity at Delta College (Delta).



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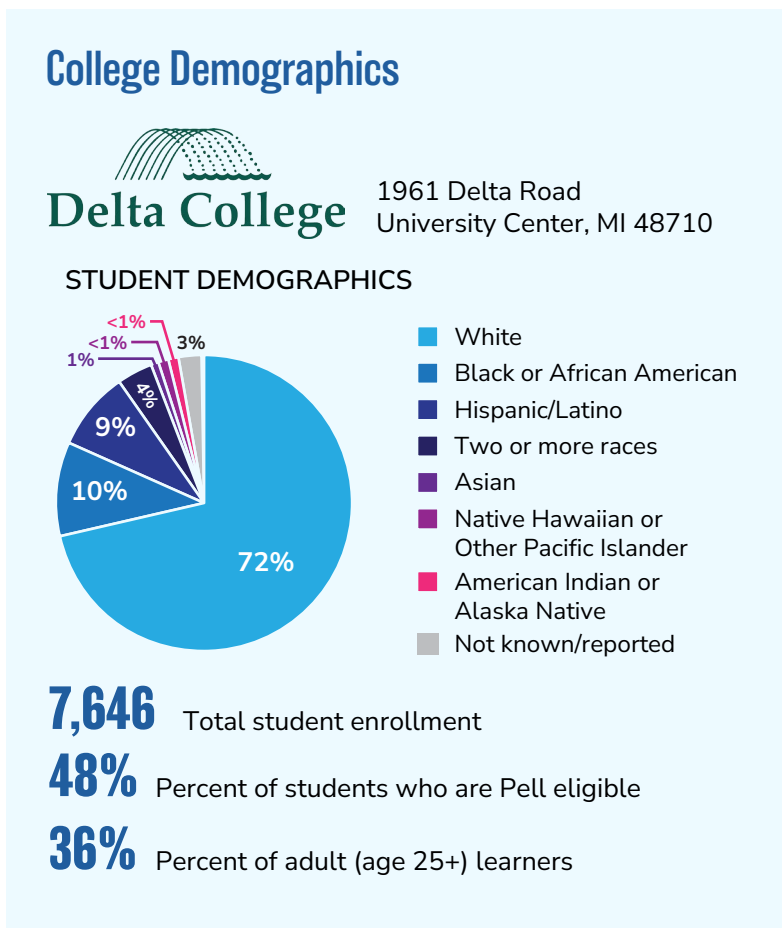
# Developing Pathways at Delta College

Delta developed C+D pathways in computer science and IT by focusing on CPL. Delta's aim was threefold: award college credit for career credentials as a way to value experiences that learners had outside of the classroom; decrease the time to earn a degree; and reduce the cost of a college education. Labor market data provided by the regional workforce development agency, Great Lakes Bay Michigan Works, combined with survey results from more than 700 local employers was used to validate Delta's effort to create these pathways to meet the high-demand and high-wages for jobs involving computer science and information technology (CST) skills. The employer survey also provided information about the minimum skills and credentials needed to be hired at their firms. Based on this information, two academic programs were selected to build new C+D pathways: the AAS in cybersecurity and the AAS in IT support.

Once the academic programs were selected, Delta faculty reviewed available career credentials to determine which were the most relevant to embed in the academic programs and to award CPL. The Google IT Support Certificate was selected as a credential to use in the pathways because it included skills and competencies that were aligned with both AAS degree programs and thus could qualify for CPL.

For the IT support pathway, the Google IT Support Certificate and CompTIA's A+ Certification were selected. Another reason for including the Google IT Support Certificate was that it is offered as an online series of asynchronous learning modules, which provided the most flexible access in terms of instructional modalities for adult and working learners. The Google IT Support Certificate also aligns with several of the CST courses in the IT support and cybersecurity AAS degrees (see Figure 3).

Figure 2: Delta College Demographics<sup>6</sup>



6 "Facts & Figures," Delta College, accessed June 20, 2025, <https://delta.edu/about-us/facts-figures.html>.



**Figure 3: Alignment of the Google IT Certificate to CST Articulated Courses for AAS in IT Support and AAS in Cybersecurity at Delta College**

Google IT Support Certificate Courses	CST Articulated Courses for AAS in IT Support	CST Articulated Courses for AAS in Cybersecurity
Course 1: IT Support Foundations	CST 128: Computer Hardware and Troubleshooting (3 credits)	CST 128: Computer Hardware and Troubleshooting (3 credits)
Course 2: The Bits and Bytes of Computer Networking	CST 135: Help Desk Fundamentals (1 credit)	CST 266: Information Security (4 credits)
Course 3: Operating Systems and You: Becoming a Power User	CST 160: Networking Essentials (3 credits)	
Course 4: System Administration and IT Infrastructure Services	CST 278: A+ Certification Prep (3 credits)	
Course 5: IT Security: Defense Against the Digital Dark Arts		
Course 6: Accelerate Your Job Search with AI		

By completing the Google IT Support Certificate, learners who are pursuing the AAS in IT Support receive CPL for CST 135 and CST 160 (see Figure 4). Passing the CompTIA A+ Certification is required to earn six credits of CPL for CST 128 and 278.

The learners enrolled in the cybersecurity pathway can get CPL for CST 128 if they complete the Google IT Support Certificate. They could also receive CPL for CST 266 if they earn the CompTIA Security+ Certification.

**Figure 4: CPL Awarded at Delta College for Career Credentials**

Industry Credentials	CPL Awarded for These Courses	Alignment with Academic Degree Programs
Google IT Support Certificate	CST 135 and CST 160 CST 128	AAS in IT Support AAS in Cybersecurity
CompTIA A+ Certification	CST 128 and CST 278	AAS in IT Support
CompTIA Security+ Certification	CST 266	AAS in Cybersecurity

Offering CPL has become an important component of these CST pathways at Delta. The faculty continue to build upon the success of using CPL to create C+D pathways and have identified two additional certifications, the Certified Cisco Network Associate (CCNA) and the Microsoft Certified: Azure Administrator Associate, which corresponds to a total of 12 credits—3 credits toward the AAS in IT support and 12 credits toward the AAS in cybersecurity. Figure 5 shows the academic courses that are aligned to these credentials.

**Figure 5: Alignment of Career Credentials with CST Articulated Courses at Delta College**

Career Credentials	CST Articulated Courses
CCNA	CST 161: CISCO Introduction to Networking (3 credits) CST 164: CISCO Routing and Switching (3 credits) CST 260: CISCO Scaling Networks (3 credits)
Microsoft Certified: Azure Administrator Associate	CST 162: Data Center Virtualization (3 credits)

By continuing to identify additional certificates and certifications that meet the rigor of qualifying for CPL, Delta College is providing more opportunities for learners to earn college credit and pursue AAS degrees in cybersecurity and IT support.

## Partners and Roles

### Faculty and Administrators

A number of internal and external partners contributed to the development of these pathways. The dean of occupational programs and workforce strategies was a critical champion. In addition to being the grant program lead and providing administrative oversight, the dean worked closely with the faculty throughout the development process, seeking their support and engagement in the development and launch of these pathways.

The director of workforce strategies was instrumental in the process that led to the selection of the career credentials and took on a number of other roles in the development of the pathways. This included serving as the marketing lead, coordinating the outreach efforts between the workforce strategies team and the CST faculty, and providing administrative grant support and reporting assistance as required by the dean of occupational programs and workforce strategies.

CST faculty worked to select and align the certificates and certifications with the relevant AAS degree programs and to determine the amount of course credit that should be awarded for completion of the credentials. The

associate dean reviewed the faculty request for CPL and approved processing requests for CPL from participants who completed the credentials, which increased the number of learners who were on track to earn their AAS and complete the C+D pathway.

Faculty also provided not only curriculum advising but also support for participants working to complete the Google IT Support Certificate. This certificate is a significant undertaking, and faculty were engaged in monitoring, conducting outreach, and providing encouragement of learner completion.

The marketing department also has played an essential role to make learners aware of the pathways. The department developed a digital marketing plan and promoted C+D pathways to learners through public relations activities and branding.

## Employers

Faculty also worked with regional employers to host employer spotlight events. The events helped learners and the general public learn more about education and career opportunities. These events showcased employers who provided insights about what it is like to work in IT and cybersecurity and what types of credentials are valued in the hiring process. The faculty discussed the opportunities to earn CPL for people who may already have earned the Google IT Support Certificate and/or the CompTIA Security+ Certification, and how these credentials can provide a jumpstart to completing the C+D pathway and earning the AAS degree in cybersecurity at Delta.

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*“Our employer spotlight events have fostered meaningful connections, highlighting the importance of industry-recognized credentials and CPL opportunities. This approach bridges the gap between education and employment, benefiting both students and employers.”*

*– Kevin Wyzkiewicz, associate professor of computer science and information technology, and coordinator, business and technology division, Delta College*

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## External Partners

Other external partners were important stakeholders in the development of these pathways as well. Google provided the training modules for the Google IT Support Certificate, including marketing support and branding. The Google IT Support Certificate was offered at no-cost to learners at Delta through the Coursera Career Academy. For its part, Coursera provided the learning management system used by faculty to track student registration and progress. Delta also worked with Ed2Go, which contributed learning support and skill building modules for learners who were seeking to complete the CompTIA Security+ Certification. Faculty were also able to track learners' progress through the Ed2Go learning modules.

# Lessons Learned

Delta faculty, staff, and administrators gained important insights as they developed and enrolled learners in the C+D pathways, including:

**Build and maintain internal support.** Developing C+D pathways which have CPL as a central tenet required building multiple layers of support. The president's support was essential for the success of the initiative, as the growth of CPL must align with the college's strategic initiatives. Additionally, to build support for CPL, proponents of the program must engage with faculty as early and as often as possible, and work with them to build a culture that appreciates the fact that learning can happen outside the classroom and that it has merit. To ensure that the pathways could be successfully implemented, Delta worked to strengthen the existing CPL processes, streamlining it for learners and making the credit earned specific to a CST class.

**Develop new tools for learners that provide CPL transparency.** Delta learned that such an approach can assist learners. For example, Delta developed what was known as the CPL Wizard, which learners use to determine the kind of college credit they could earn based on their educational, work, and life experiences. With the CPL Wizard, learners answer a set of questions about whether they took Advanced Placement or International Baccalaureate exams in high school, whether they earned or would like to earn a career credential, or whether they worked or had military experience. Learners also select the courses, exams, or credentials they have already completed. The Wizard provides a list of eligible credits that could be applied toward Delta certificate and associate degree programs. Perhaps most significantly, the tool provides learners with information about how their previous experiences can count for college credit.

**Change the language used to educate learners about certifications and other non-credit pathways.** Delta replaced the term “non-credit credential” with “career credential” to help combat the negative connotation associated with the prefix “non,” which created views that they were “less valuable than” for credit courses. Delta's career credentials tie courses and training for credentials to a specific career and aids learners in understanding the value of earning the credentials. Additionally, Delta career credential certificate programs can count toward academic courses in Delta certificate and degree programs.<sup>7</sup> The shift in terminology bridges the divide between academic and non-credit, so that both options are now seen as valuable to the learner and can all serve as a pathway to a career.

Delta also implemented a marketing and public relations campaign, encouraging faculty, administrators, students, and external stakeholders to use the term career credential instead of non-credit credential. In addition, Delta updated all college documents, including the course catalog and website, with this new term.

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7 “Job Training & Career Credentials,” Delta College, accessed June 20, 2025, <https://www.delta.edu/academics/job-training/index.html>.



**Provide additional student support.** Delta put significant resources into educating learners on how to enroll and complete the C+D pathways. All enrolled Delta students have access to student support services, including advising, career discovery services, mental health counseling services, and community resources that can help address problems like a lack of transportation and childcare.

All learners seeking the career credentials as part of the pathways received additional, direct support from faculty, who were responsible for monitoring students' progress as they worked to earn the credentials. Faculty emailed learners on a scheduled basis to see if learners had any particular challenges, and met with students on a one-on-one basis either virtually or in person to discuss progress and any challenges identified. Once the learner completed a credential, the faculty guided the learner on how to enroll in the chosen AAS degree and detailed the process for earning CPL.

The faculty also connected students to local employers through the employer spotlight events in which they learn about the skills, behaviors, and credentials employers look for in employees, as well as information about job opportunities, the work environment, and salary.

**Assess the value of offering credentials for free.** Through a relationship with Google, Delta was able to offer the Google IT Support Certificate at no cost to learners through the Coursera Career Academy. While this approach provided access for all learners, there were concerns that some learners may not have taken the credential as seriously as if they had paid the fee themselves. As a result, free access to the certificate may have impacted completion rates, since learners knew there were no consequences if they did not complete the credential. Further discussion about having free access to career credentials, as opposed to requiring minimal registration fees, is needed.

**Provide clarity about what counts for CPL.** Most learners do not know that credentials earned outside of higher education could count toward CPL, and, ultimately, a college degree. Learners should be given information about which career credentials are accepted for CPL and degree programs. To address this knowledge gap, Delta collaborated with the Michigan Community College Association on a state-wide transfer tool, the Michigan Transfer Network. The tool allows learners to view credit for career credentials at Michigan colleges and universities. Learners can search the database by entering the name of the credential provider and the college where they want to transfer the credential. The tool lists academic courses and the amount of credit that would be granted to the learner by the institution. The Michigan Transfer Tool for Delta is maintained by their registrar's office. It is updated frequently, and is included as a link on the college's public website and internal learner's website to ensure students have easy access.

## Sustainability Plans

C+D pathways are an important example of the value of CPL, which accelerates a learner's degree completion. Pathways program staff will continue to advocate the value of the pathways to other faculty and administrators. Program staff have also met with associate deans and faculty from multiple divisions to review the success of the CST C+D pathways programs, provide resources for CPL, and encourage faculty to identify more CPL

opportunities in their divisions. Additionally, student success advisors must continue to be advocates to ensure CPL continues to be a priority in the effort to build C+D pathways and to ensure learners know about CPL and how it can accelerate their degree completion with the tools at their disposal to facilitate discussions about CPL options.

Furthermore, Delta has created a CPL guidebook and a CPL procedure and process flow document, which are used to sustain and expand CPL opportunities that can lead to additional C+D pathways. These documents provide important information that can build CPL accessibility for adult students, thus supporting retention and completion strategies. In addition, Delta created a student guidebook and a new public website page for CPL, which encourages learners to use career credentials as CPL toward the completion of C+D pathways.

To ensure the long-term success of C+D pathways in combination with CPL, ongoing efforts will focus on raising awareness among learners and advisors, providing additional support and training, and continuously expanding CPL opportunities to develop more C+D pathways.

## Evaluation and Outcomes

These C+D pathways have been successful in increasing the number of learners who earn career credentials and complete IT support and cybersecurity AAS degrees. To evaluate the success of the C+D pathways, Delta is tracking the number of learners who earn career credentials, as well as those who convert their CPL into an academic degree program. Delta has seen an increase in not only the number of learners who have earned IT support and cybersecurity career credentials, but also the number of credits learners have earned using CPL, which translates into reduced tuition for many learners.

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*“We have established a clear pathway for students, from credential to degree, starting with admissions and career advising, and emphasizing regional industry connections. By highlighting credit for prior learning, we provide students (and staff) with a more visible — and often shorter — path toward achieving their goals and enable them to enter the workforce better prepared.”*

*— Sue Roche, MSM, associate dean, business and technology division, Delta College*

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## Conclusion

Delta developed two C+D pathways in IT support and cybersecurity to provide learners with the skills they need to be successful in the labor market. By using CPL to award credit for career credentials, learners can complete C+D pathways in less time and save money. In addition, learners benefit from acquiring not only the broad-based skills taught in academic degree and certificate programs but also the technical and occupational specific skills assessed on a certification exam. The combination of these different types of credentials provides learners at Delta with more opportunities as they pursue their career goals.

# Key Resources

Listed below are key resources and information about the programs at Delta College and some of the certifications that were included.

## Delta College

Credit for Prior Learning: <https://www.delta.edu/academics/credit-for-prior-learning.html>

Cybersecurity AAS Degree: <https://www.delta.edu/programs/cybersecurity/index.html>

IT Support AAS Degree: <https://www.delta.edu/programs/it-support/index.html>

Job Training and Career Credentials: <https://www.delta.edu/academics/job-training/index.html>

Michigan Transfer Network: <https://www.mitransfer.org>

## Certifications

CompTIA A+ Certification: <https://partners.comptia.org/certifications/a>

- » CompTIA A+ Certification Exam Core 1 Objectives (V15): <https://www.comptia.org/en-us/certifications/a/core-1-v15/objectives>
- » CompTIA A+ Certification Exam Core 2 Objectives (V15): <https://www.comptia.org/en-us/certifications/a/core-2-v15/objectives>

CompTIA Security+ Certification: <https://partners.comptia.org/certifications/security>

- » CompTIA Security+ Certification Exam Objectives (Exam Number SY0-701): <https://www.comptia.org/en-us/certifications/security/objectives>
- » CCNA: <https://www.cisco.com/site/us/en/learn/training-certifications/certifications/enterprise/ccna/index.html>
- » CCNA Exam Topics: <https://learningnetwork.cisco.com/s/ccna-exam-topics?ccid=ccnacert-guide&dtid=ebook&oid=ccna-cert-guide>
- » Exam and Training Resources: <https://www.cisco.com/site/us/en/learn/training-certifications/certifications/enterprise/ccna/exams-and-training.html>
- » Google IT Support Certificate: <https://grow.google/certificates/it-support>

Microsoft Certified Azure Administrator Associate: <https://learn.microsoft.com/en-us/credentials/certifications/azure-administrator/?practice-assessment-type=certification>